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ABSTRACT

Learning communities are collections of autonomous, independent individuals who are bound together by natural will and a set of shared ideas and ideals, and who are engaged by influencing each other within a learning process. This definition depends on a new concept of community, technology, and learning, in which relationships occur via many non-traditional (electronic) or non-mediated language discourses within environments. Unlike most organizational cultural communities, a learning community must be open--allowing learners and educators to engage in learning opportunities with whomever they choose, from among many sources, so that everyone has the opportunity to develop relationships with other learners and educators outside the traditional boundaries of the school. Building on its definition of "community," this paper discusses: foundational theoretical issues and practical considerations for building learning communities within the context of a technologically integrated world; four types of virtual learning communities and their purposes--relationship, place, mind, and memory; characteristics of virtual learning communities and the contributions technology can make to building them--negotiation, intimacy, commitment, and engagement; questions raised by virtual learning communities; and thoughts for rural educators on applying community-building principles to building successful learning communities within modern-day rural Saskatchewan (Canada). (Contains 13 references.) (Author/SWC)

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Building Learning Communities With Technology

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Abstract

We begin by defining 'community' for educators and proceed to examine fundamental issues around new theories and building practice for the construction of learning communities. Our concept of community asks the reader not to consider the shape of institutions or "schools" that exist today, but to ponder some possible shapes for (virtual) learning communities that could exist tomorrow. Second, we discuss some foundational considerations for theoreticians preparing us to go out and build these communities with technological support. After discussing the practical issues around building new communities we offer examples of virtual community types - including examples of technologically supported learning strategies that fall far short of our definition of virtual learning communities. Finally, some tactics for building terrific learning communities are offered to stimulate thought about applying some community-building principles within modern-day rural Saskatchewan.

A Definition of Community

Learning communities for the next century are more about harmony than solidarity or unity. They are, quite simply, collections of individuals who are bound together by natural will and a set of shared ideas and ideals. In his work titled *Nichomachean Ethics*, Aristotle explains that community is not so much about unity as it is about harmony (Aristotle, trans. 1980). Harmonious groups of people are frequently described by social, religious, political, scientific and moral philosophers and scientists as groups within organizational, political or moral frames. Empirical, modern and post-modern philosophical perspectives root theory and practice in community study to present a sometimes bewildering array of definitions. Our definition is simple and embodies post modern thinking in a modern technological environment.

Philosophers will notice that the teleological nature of our definition is partly weaved from Kantian principles that accredit people with the capacity to embody a rational, autonomous will (willpower). Quite simply, we believe that learners and everyone within a learning community (including teachers and administrators) has a will to do what is "right" and "good" in accordance with group-set values and ethical principles, for example, such as to "do no harm" to each other. These relationships exemplify moral reasoning, not instrumental reason. We contend with Kant that the will manisfests in a developed learning community when the "I" considers the "We" (Honderich, 1995, p. 439). To support discourse within the community we consider "the power of (virtual) technology to reconfigure social space and social interaction (Stone, 1992, p. 86). Interaction is key - and interaction depends on many modes of face to face and mediated (electronic) communication.

Our view of a learning community depends not on libertarian constructs but on autonomous, independent individuals engaged by influencing each other within a learning process. This view depends a new concept of community, technology and learning. Relationships occur via many non-traditional (electronic) or non-mediated language discourse(s) within environments. For example, we have all experienced developing a telephone relationship with someone in another office and only much later put a face to the voice. "The problem is to create a system in which people can enter into relations that are determined by problems or shared ambitions rather than by rules or structure (Heckscher, 1994, p. 24). Community requires a highly interactive, loosely structured organization with tightly knit relations based on personal persuasion and interdependence:

> *The networking of individuals from technically [and artistically] separate areas [happens] to the extent that clear external boundaries of the organization [community] become faintly magical (Nohria and Berkely, 1994, p. 115).*

We hold this concept of community in contrast to the 'closed' community of 'empowered' individuals currently espoused in much current management theory rhetoric. Closed communities emphasizing organizational cultures embody a set of corporate values "that restrict the range of strategic flexibility to anchor the community (Heckscher, 1994, p. 30). We

maintain that, unlike most oranizational cultural communities, a learning community must be open—allowing learners and educators to engage in any learning opportunity with whomever they choose, from among many sources. This will permit everyone to develop relationships with other learners and educators outside the traditional boundaries of the school.

Foundational Theoretical Issues for Building Learning Communities

Before we build new kinds of communities, we need to consider the place of a learning community within a theoretical framework that considers the full power of a technologically integrated world. Sergovanni (1996) offers a footing for building these theoretical structures by proposing four key considerations for theorists and practitioners engaged in learning community theory development.

First, the theory and form of the community should be aesthetically pleasing. The language and form should be appealing: "Let them choose the one that they find most appealing-most useful (Sergiovanni, 1996, p. 32)". Learners and teachers exist in relationships where they are both customers and suppliers; teachers consume student work and supply instruction while students consume instruction and supply work within interactive, interdependent relationships.

Second, we should consider moral connections within this community where "I" thinks about "We". Connections weaved by such moral reasoning might require us to teach our learners and ourselves the practices of value self-reflection and determination. "Connections satisfy the needs of coordination and commitment that any enterprise must fulfill in order to exceed (p. 33)". What we are talking about is a fundamental shift in how we think about school leadership [and community leadership] (Sackney and Walker, 1996, p.15). Strong connections created within the community lead to common shared values and commitments that propel learning and new knowledge. For example, learners and teachers would strive to engage in the learning process (together) for mutual benefit and not through power relationships.

We must consider robust, innovative approaches to technology-enhanced communication that fit the new community. The old utilitarian means-ends theories only work where linear relationships exist. We know that linear relationships and linear communications seldom exist in learning communities with students, teachers, administrators, local business persons, school boards and remote knowledge "experts" who interact via both personal and mediated communcations. When was the last time the essence of a minister's report was first understood by school administrators in a formal letter? The 'grapevine' and mass media mock the idea of hierarchical communication. Etzioni reminds us that a collective rationality "can emerge from integrating all of our values, emotions, beliefs and social bonds and that our definition must accommodate this level of integration (Etzioni, 1992, p. 63). Our practice in community building should consider the emergence of such collective rationalities when learners decide what to learn.

Finally, we must consider constructivist principles to be the pillars supporting this learning community. Most importantly we should incorporate an understanding of what teachers, parents and students wish to accomplish: "At the root of it [theory] is the simple idea that children and adults construct their own understandings of the world in which they live (Sergiovanni, 1996, p. 38)". When we open up dense, integrated, interactive channels of communication for parents, students, teachers and administrators we open our community to deeper understandings of what is really going on - and with shared values.

By considering these four major issues we can begin to develop a technologically supported community that is inclusive, open and self managing..

Practical Considerations for Building Learning Communities

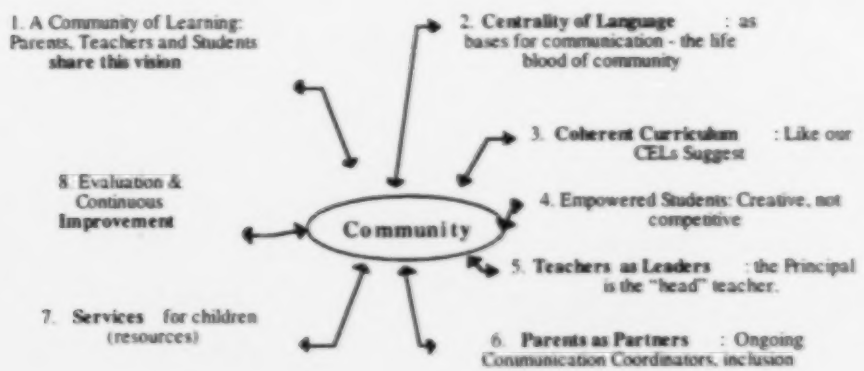
When people share a moral voice in a community, whether the message is one of mutal support or one representing a common goal (i.e.,"First and Best"), we can worry less about providing rules for conduct and we can think more about dazzling discourse and supercharged learners. How do we begin such a virtual construction project? First, we must realize that building community is not an organizational engineering problem - the problem is one of establishing a moral community. We will need to teach ourselves and our learners about value self-reflection and moral reasoning concominant with techological literacy to those who may be familiar only with the older "cultural" or bureaucratic community shapes and technologies. Second, we know from the research that communities "are organized around relationships and ideas (Sergiovanni, 1996, p. 48). We need to know the nature of the various relationships to provide communication or discourse venues for these people.

We also need to construct social structures that bond people together in a "one-ness" so that a feeling of belonging is shared. We suggest that the correct mix of interpersonal contact (either in 'cyberspace' or in person) is essential to building trust in this community of learners, teachers and administrators. Sharing and learning within a discourse based on morals, values and principle conditions (e.g., purpose, trust, freedom to take risks, unconditional acceptance, shared responsibility, everybody feeling obligated to do the right thing) can create frequent dialogue possible only when everyone defines these principles with a common moral voice. We may need to develop that moral voice through value identification and reflection at all levels - teams will build themselves with a motivated group sharing common values:

People understand the importance of identifying with place and space over time, providing members with a sense of security over time. This identification is much stronger and longer lasting than individuals' identification with an organization (Tonnies, 1957, p. 77).

Administrative arrangements could encourage people to work together - so that curriculum and instruction could be distributed as part of community discourse without the barriers of the metaphorical 'closed classroom door' and heavily bureaucratic administrative hierarchies. Some key characteristics of this educational community are outlined in Figure 1.

Figure 1. Key characteristics of a learning community.


1. A Community of Learning: Parents, Teachers and Students share this vision
2. Centrality of Language : as bases for communication - the life blood of community
3. Coherent Curriculum : Like our CELs Suggest
4. Empowered Students: Creative, not competitive
5. Teachers as Leaders : the Principal is the "head" teacher.
6. Parents as Partners : Ongoing Communication Coordinators, inclusion
7. Services for children (resources)
8. Evaluation & Continuous Improvement
Community

Thus far, we have provided the definition of a learning community, presented foundational concerns to help theoreticians construct theoretical frameworks and reviewed some practical

considerations about how to construct this new type of learning community. Now we explore more of the fabric of that community and how technology will integrate the discourse to support the relationships within them.

Virtual Learning Communities

Virtual learning communities are learning communities based not on actual geography, but on shared purpose. Through technology, learners can be drawn together from almost anywhere, and they can construct their own formal or informal groups. As such, virtual learning communities are separated by space, but not time, as communication can be facilitated by technology in real time, partially overcoming geographical inhibitions. Borrowing from the work of Bellah (1985), we suggest at least four types of virtual learning communities, with concomitant purposes they serve.

Virtual Learning Communities of Relationship

A community built on relationships promotes special kinds of connections among people, interconnections that result in a peculiar harmony similar to that found in families or collections of people. These connections might be based on a shared concern, issue or learning problem, but in each instance, the emphasis is on the relationships built among participants. Issues of commitment, trust and values are inherent in any relationships which emerge in the community.

Many robust examples of this type of community exist, but one of the most powerful has been the emergence of support groups for women on the world wide web. Women have developed web sites for dealing with abuse, single-parenting and harassment in the workplace, for example, and have used them as places for sharing experiences, discussing problems and pondering advice.

Virtual Learning Communities of Place

Individuals in this type of community enjoy a common habitat or locale. This sharing of place with others can offer a sense of security, commonality, and heritage. The place need not be physical, however, and in virtual communities, places are by definition not physical. People from several countries can gather in one virtual place on the internet, for example, as easily as people can gather for a meeting in a school building (perhaps easier). Nevertheless, the location can be as real as the imagination and technology allow. The internet houses thousands of virtual store fronts, for example, each of which exists metaphorically as a place.

An example of a virtual community of place is "Marathon," a computer-based network game, in which participants meet in a virtual location and exploit it in a competition. The virtual world is housed centrally, and individuals enter it from any location on the network. They can develop common strategies, team with or against other players in real time, and the actions of any player influences the game dynamically. Players can also construct their own environment, and invite other participants into that "place." Marathon is a game with few learning outcomes attached, but it illustrates some of the characteristics of virtual learning communities of place. Virtual places could also be designed around shared learning adventures, say, the physiology of the brain, or the House of Commons, and participants could interact dynamically in the places.

Virtual Learning Communities of Mind

Communities of mind reinforce people's commitment to other people, to common goals, shared values and shared conceptions of being and doing. This can be as trivial as a shared interest in wine making, or as profound as a shared search for truth in scripture. The two most distinguishable features of a community of mind are sharing and ideas, however they may be expressed interpersonally or technologically.

Examples of a learning community of mind are found repeatedly in the academic communities, where researchers come together to grapple with a shared research issue or problem. But this type of community, as with other types, are not always positive or pro-social. Many dark examples of this type of community can be found on the internet in web sites and chat groups which focus on hate. The world wide web is replete with hate mongers who promote intolerance toward all manner of religious, ethnic and political groups.

Virtual Learning Communities of Memory

A virtual learning community of memory is based on a shared past or a common sense of history. This community connects people who might otherwise be alone, and also provides a focal point for interpreting and understanding commonly experienced events.

A very powerful example of this is found with the Holocaust survivors network on the internet. Survivors and descendants of survivors can engage in discourse with others whose lives have been touched by this tragedy. Through virtual discussion, they have an opportunity to understand the causes and effects of the Holocaust, and provide support to others in the community who share the memory. By participating within a community of memory, we are effectively managing our temporal learning environment.

Characteristics of Virtual Learning Communities

In order to understand the nature of the contribution technology can make to building virtual learning communities, we first need to distinguish between traditional conceptions of technology and the kinds of contributions technology can make to building learning communities. Traditionally, when people think of technology, they think of media—television, film, computers—as means of delivering or presenting material. Certainly traditional media have made many contributions to education, schools, communities and ultimately, learning. Most school divisions have developed extensive libraries of resources, and everything from a set of maps to a complete trigonometry course on videodisc have been used by teachers to support instruction.

But the reader may have noticed that this paper refers only tangentially to the hardware and software commonly labeled as "technology" by educators. The type of technology we are talking about in this paper emphasizes technology as a medium for expression and communication. Used as a communication tool, technology offers opportunities for extending learning beyond the boundaries of classroom, province and country, and this in turn promotes the development of a rich tapestry of formal and informal learning communities. A virtual learning community employs technology to communicate; therefore, it can, and does, happen anywhere, and it can be constructed anywhere. The idea of construction is central to the notion of virtual communities, as what is created by the community becomes the collective product of its individual members.

In order to satisfy our requirements for a virtual learning community, a technology must permit each of the following conditions:

Negotiation

While virtual communities are often built around central themes, ideas or purposes, the organizing principles are not externally imposed. Purposes, intentions and the protocol for interaction are constructed by participants. Systems allow open and unrestricted access based on individual interests and needs.

Intimacy

Participants can achieve personally gratifying levels of intimacy with other participants, and can select the level of intimacy appropriate for any negotiated relationship with another participant.

Anonymity is possible, but as the sense of community develops, it is unlikely that a participant would choose to remain anonymous.

Commitment

The quality of participation depends on individual and shared commitment or relevance of the substance of the community. Commitment depends on shared values in the community, where participation represents an ethical choice among those who share goals or needs. The valence of the commitment need only be strong enough to maintain participation in the group, but stronger commitment generally leads to the development of stronger communities.

Engagement

Participants interact with each other and have the capacity to conduct discourse freely and meaningfully. In order to fit our definition, engagement must have immediacy—not be significantly delayed in time or space. Interaction must be effervescent, and based on influence among participants rather than power relationships.

Each of these components is necessary for meaningful communication to take place between and among individuals, and we believe that communication, in the form of legitimate discourse, is central to the notion of building learning communities. In order to examine how these components contribute to the development of virtual learning communities, we will examine a few examples of virtual learning communities, and also look at some technologies that might be mistaken for virtual learning communities.

One of the simplest examples of a virtual learning community is a **conference telephone call**. Requiring only a telephone for each participant and a bridge to connect them, it allows participants a full range of negotiation, intimacy, commitment and engagement.

A **teleconference** (n-way video and audio) accomplishes the same purposes as a conference telephone call, but also permits visual communication. A recent innovation allows participants to mount inexpensive video cameras on computers and transmit slow scan video and telephone quality audio over telephone lines, and establish a connection between two computers. In effect, each participant appears in a small window on the computer screen of the other participant. Special software can be used to establish a reflector site, which acts like a video bridge for several participants at the same time.

A **chat room** is another technology available for joining several participants in a community of discourse. Simply speaking, chat rooms are locations on the internet that gather keyboarded input from two or more individuals as they type. Everyone logged into the chat room can view the posted material and respond to the comments of others. Chat rooms are usually organized around a specific topic or area of interest, and the topics are as wide ranging as the imaginations of the participants. Participants can use their own names or pseudonyms, personally controlling whatever is a comfortable amount of intimacy. In crowded chat rooms, interaction can become quite confusing, as one participant responds out of sequence to an item presented much earlier in the on-screen discussion among several people. So it is common for individuals to pair off and agree to meet in another, private room. It all sounds quite seductive, and certainly can be, but in most cases, private rooms are used to pursue a specific conversation more intensely with another individual. Chat rooms are often moderated by an individual who monitors discussion and facilitates interaction. Participants typically monitor discourse too, and are quick to isolate an individual who contributes inappropriate or unsavory material. In this way, protocol is constantly negotiated. Chat rooms provide a rich example of technology that facilitates negotiation, intimacy, commitment and engagement. How can they be turned into virtual learning environments? First, teachers can build chat rooms around specific topics of discussion and help moderate and participate in discussions. Classroom activities and projects can be designed to encourage students to use chat rooms to collaborate with other students in problem-solving activities. Teachers can also help students develop skills in framing arguments, conducting on-line discussions, and understanding the protocol and

etiquette of communicating through this technology. In some cases, it may be necessary for educators to closely monitor the chat rooms, to help keep the focus of discussion on learning activities, and even to remove intruders who enter the room to cause mischief.

There are, of course, limitations to each of these examples. One of the most dramatic, is access. Each technology, even the most modest, requires some hardware and budget to support interaction. Some technologies introduce specific barriers. For example, access to chat rooms require keyboarding skills. Poor typing skills limit the amount and quality of the interaction, and probably test the patience of other participants.

At the same time, the examples illustrate how inclusive such communities can be. Individuals with disabilities, those living in remote or rural areas, and those who have difficulty participating in groups can all be part of virtual communities.

There are several technologies which appear to support virtual learning communities, but which do not. There are a host of websites which offer excellent material to educators, but which do not make any pretense of promoting negotiation or engagement. Perhaps the most prevalent, and growing example of this, can be found in the array of university courses now available on the web. Most provide an electronic version of a print-based correspondence course, and challenge the learner to read material and extract information. These sites can have great value, but they should not be confused with learning communities, as they do not permit discourse. Some websites pretend intimacy and engagement, but merely simulate actual conversation rather than engage in discourse with the user. For example, psychic hotlines are available which give the impression of real, intimate and engaged discussion, when in fact, the conversation is not negotiated by the participants as it is controlled by the "host."

Televised distance education programs with fax and phone call-back are among the easiest educational innovations to confuse with virtual learning communities. In these programs, a teacher typically teaches a class to the camera or to a group of students in the studio. Students at remote locations can interrupt the instructor with comments, questions or faxes, but unless the instructor is highly skilled at conducting mediated discussions, there will be little actual give-and-take in the conversation. This can provide a serious source of frustration to teachers who usually depend on classroom discussion to carry a class, as the technology can serve to isolate learners from the teacher. As an aside, we suspect that this is precisely why some distance education initiatives fail—because the technology promotes transmission of information rather than the construction of learning communities. It is not the fault of the teleteacher or the technology, yet it is a natural outcome of the interaction between the two.

Listserves and electronic mail are also easily mistaken for technologies that support virtual learning communities. A listserv is a location for posting mail messages on a particular topic to everyone who subscribes to that listservice. It is very similar to a chat room, with one important difference: participants in the listserv are not in the location at the same time. Listserv participants drop mail into a location; chat room participants drop into a location and type messages in real time to each other. Thus, the engagement is not immediate and negotiated. Listserves and e-mail have important contributions to make to education and learning, but they are not examples of platforms that support virtual learning communities.

Questions Raised by Virtual Learning Communities

If educators choose to support the development of virtual learning communities, a number of issues arise concerning management, pedagogy and content liability. On the surface, the most imposing barrier appears to be financial. Technology requires hardware, software, and access, and these elements can be expensive. However, we believe that other issues are more important, and in some cases, more difficult to deal with in supporting this type of intervention. We present a few of these issues in the form of questions which educators will need to address.

- How can teaching and learning settings be arranged to support learning communities that extend beyond the walls of the schools?

- What are the shared values and commitments that enable the school to become a community of mind?

- What are the patterns of mutual obligations and responsibilities that emerge in the school as community is achieved?

- What kinds of pre-service preparation and professional development opportunities do educators require to adopt new roles demanded by technology-based interventions?

- What can be done to increase the sense of a world community among teachers, administrators and students of a school?

- How can teachers become more of a professional community where everyone cares about each other and supports common learning concerns?

- What kinds of school-parent relationships need to be cultivated to include parents in this type of initiative?

- How can the web of relationships that exist among teachers and between teachers and students be defined so that they embody community?

Concluding Thoughts for Rural Educators

Building virtual learning communities provides one way to think about finding some answers to curricular challenges faced by rural communities. Some of the strongest objections to many distance education initiatives charge that they are expensive, they are difficult to manage, and they fail to provide the type of interaction and engagement among students necessary to promote a high level of learning. At the same time, rural administrators are confronted with the option of supporting a smaller local school population by supplementing the curriculum with traditional distance educatior courses, versus closing smaller schools and moving students to larger centres which can support a broader range of specialized programs. The argument between the benefits of smaller schools and larger programs continues to percolate.

> *In order to build a caring community students need continuity in their school residence. They should stay in one school building for longer than two or three years. Children need time to settle in, to become responsible for their physical surroundings, to take part in maintaining a caring community. When we have to choose between highly specialized programs for a narrow range and a continuity of place, we should choose the latter. Continuity of place is easier to achieve in smaller schools.* (Noddings, 1992)

We contend that the choice between specialized programs and continuity of place is a false dichotomy; it is an either-or proposition that deserves to be challenged. We do not suggest that using technology to support the development of virtual learning communities will provide definitive solutions to the many challenges faced by rural schools. Many of our children are already technologically literate, and many already participate in informal virtual learning communities. We suggest a way of using technology that is consistent with constructivist changes underway in the schools, and recognize that virtual learning communities can contribute to the way we respond to those challenges.

> *We must be able to catch the ball that the child throws to us, and toss it back to them in a way that makes them want to continue the game (of learning) with us...developing, inventing new games as we go along. (Filipinni, 1990)*

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